

AMENDMENT TO THE CLAIMS

1-4. (Cancelled)

5. (Previously presented) A low-pass filter, comprising:

a first element block having a capacitive element;

a second element block having a resistive element, the second element block being connected in series to the first element block;

a first input terminal for receiving a first electric current, the first input terminal being provided at a side including the second element block;

a second input terminal for receiving a second electric current, the second input terminal being connected to a connection point of the first element block and the second element block;
and

an operational amplifier having a normal phase input terminal, an inverted phase input terminal, and an output terminal, the first and second element blocks being provided between the inverted phase input terminal and the output terminal, the normal phase input terminal being supplied with a reference voltage,

wherein the first input terminal is provided at a side including the inverted phase input terminal of the operational amplifier,

the second electric current is an electric current whose direction is the same as that of the first electric current and whose magnitude is N times that of the first electric current (where N is a predetermined number), and

a total voltage generated in the first and second element blocks is employed as an output signal.

6. (Previously presented) A low-pass filter, comprising:

- a first element block having a capacitive element;
- a second element block having a resistive element, the second element block being connected in series to the first element block;
- an operational amplifier having a normal phase input terminal, an inverted phase input terminal, and an output terminal, the first and second element blocks being provided between the inverted phase input terminal and the output terminal, the normal phase input terminal being supplied with a reference voltage;
- a first input terminal for receiving a first electric current;
- a second input terminal for receiving a second electric current, the second input terminal being connected to the inverted phase input terminal of the operational amplifier; and
- a third element block having a capacitive element and a resistive element, the capacitive element being provided between the first input terminal and the reference voltage, the resistive element being provided between the first input terminal and the inverted phase input terminal of the operational amplifier,

wherein the second electric current is an electric current whose direction is opposite to that of the first electric current and whose magnitude is N times that of the first electric current (where N is a predetermined number), and

- a total voltage generated in the first and second element blocks is employed as an output signal.

7-11. (Cancelled)

12. (Previously presented) A feedback system for feeding back an output clock generated based on an input clock such that the output clock has a predetermined characteristic, comprising:

a loop filter including a first element block which has a capacitive element, a second element block which has a resistive element and is connected in series to the first element block, a first input terminal for receiving a first electric current, and a second input terminal for receiving a second electric current, which is connected to a connection point of the first and second element blocks, a total voltage generated in the first and second element blocks being employed as an output signal;

a charge pump circuit for generating the first and second electric currents based on a phase difference between the input clock and the fed-back clock; and

output clock generation means for generating the output clock based on the output signal from the loop filter,

wherein the first input terminal of the loop filter is provided at the side including the first element block;

the direction of the second electric current is the same as that of the first electric current, and the magnitude of the second electric current is N times that of the first electric current (where N is a predetermined number); and

the charge pump circuit includes a first partial charge pump circuit which outputs/receives the first electric current and a second partial charge pump circuit which outputs/receives the second electric current.

13. (Canceled)

14. (Previously presented) A semiconductor integrated circuit comprising the feedback system of claim 12.

15. (Original) The semiconductor integrated circuit of claim 14, wherein the semiconductor integrated circuit is used in an IC card.

16. (Previously presented) The semiconductor integrated circuit of claim 14, wherein:
the semiconductor integrated circuit has a chip-on-chip structure; and
the feedback system exists in an upper layer of the chip-on-chip structure.

17. (Previously presented) The semiconductor integrated circuit of claim 14, wherein the feedback system exists on a pad of the semiconductor integrated circuit.

18. (Original) The semiconductor integrated circuit of claim 14, wherein the semiconductor integrated circuit is a microprocessor.

19. (Previously presented) The feedback system of claim 12, wherein the output clock generation means is a voltage controlled oscillator which oscillates the output clock and changes the oscillation frequency based on the output signal from the loop filter.

20. (Previously presented) The feedback system of claim 12, wherein the output clock generation means is a voltage controlled delay circuit which changes a delay amount of the output clock with respect to the input clock based on the input clock and the output signal from the loop filter.